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DATE: NOVEMBER 25 1996 96-02

TO: AIRPORT CERTIFICATION SAFETY INSPECTORS

TOPIC: HIGH REACH ARFF EQUIPMENT

After an extensive testing and validation process, FAA has approved extendible high rise turrets with penetrating nozzle as eligible for funding under the Airport Improvement Program (AIP). Consideration for funding will be limited to:

> one (1) of these devices at each fire station at Index B and above airports.

To assist ACSIs in understanding the equipment, its use and application, the following information may be helpful.

1. The extendible turret places the nozzle well forward of and below the operator, thus eliminating foam overspray and providing a clearer view of the effectiveness of agent application.

2. When the nozzle is positioned at the seat of the fire, it allows extinguishment of ground based fires more effectively as agent is applied directly on the burning surface. This eliminates the "raindrop" application, a situation that generally results in wasted agent, as the heated smoke plume and wind carry it away. In addition, the nozzle can be placed near an elevated engine or wing fuel tank fire to cut off running fuel fires.

3. The extendible turret with precision nozzle placement can be more effective with rates in the 250-500GPM, whereas other roof turret rates of 750-1000GPM exhaust the supply of agent more rapidly. This technology allows the operator to extinguish the fire with short bursts of agent with more precision, as opposed to mass application.

Extendible turrets were tested on elevated engines, 3-dimensional running fuel fires and undercarriage, cargo bay and interior fires. Many of these conditions allow only limited handline attack, and in the case of the interior fires, pose additional dangers to the firefighters as they assist in evacuating passengers.

In the FAA tests, it was demonstrated that the boom mounted penetration nozzle provided a rapid interior suppression system. With the application of water into the interior of an aircraft, it provided rapid cooling, immediate fire knockdown, rapid temperature reduction and ventilation of toxic gases, thus extending the survivable conditions throughout the aircraft. Also, it provided rapid intervention which allowed other equipment and personnel to commence rescue operations in a less hostile environment.

The extendible high-rise turret with penetrating nozzle offers the aviation fire fighter a versatile tool with application to a wide variety of situations on nearly all size aircraft.

_____ 11-25-96

Benedict D. Castellano, Manager
Airport Safety and Compliance Branch

Date

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